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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/810,459  
Filing Date: March 27, 2004  
Appellant(s): ORBACH, JULIAN JAMES

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John C. Moran  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed August 26, 2009 and the amended brief filed October 22, 2009 appealing from the Office action mailed November 17, 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the amended appeal brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,542,436	Myllyla	04-2003
5,680,450	Dent et al.	10-1997

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections – 35 USC § 102***

1. Claims 1-5, and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Myllyla (U.S. Patent Number 6,542,436).

Regarding claim 1, Myllyla teaches a method for detecting presence of a user at a telecommunication terminal (Figs. 1-3), comprising the steps of:

testing acoustic paths communicating audio information from and back to the telecommunication terminal (Fig. 1, 1 EMITTING, 2 RECEIVING, A Path, B Path, Fig. 2, Mobile Telephone/Cellular Telephone/Personal Communicator, col. 2 lines 66-67, and col. 3 lines 1-4, i.e., generates a measurement signal from and back to the detection system via acoustic paths); and

determining the presence of the user based on changes in the acoustic paths (Figs. 1-2, col. 3 lines 4-8, i.e., the altered measurement signal is compared to a predetermined threshold value for determining the presence of the user).

Regarding claim 2, Myllyla teaches a method wherein the step of testing comprises the steps of forming a model of the acoustic paths (Figs. 2-3);

detecting modifications in the acoustic paths to update the model of the acoustic paths (Fig. 3, col. 4 lines 32-38); and

the step of determining comprises the step of using the detected modifications to determine changes in the acoustic paths (Fig. 3, col. 4 lines 39-40, i.e., acoustic paths altered by the user's head).

Regarding claim 3, Myllyla teaches a method wherein the step of detecting comprises the steps of applying audio information transmitted from the telecommunication terminal to the model of the acoustic paths (Figs. 2-3);

receiving the transmitted audio information back by the telecommunication terminal via the acoustic paths (Fig. 3, col. 4 lines 41-47);

determining a difference between an output of the model of acoustic paths from the received audio information (Fig. 3, col. 4 lines 48-53); and calculating a correction to the model of the acoustic paths using the difference and transmitted audio information (Figs. 1-3, col. 4 lines 54-58).

Regarding claims 4 and 11, Myllyla teaches a method and an apparatus wherein the audio information is at one of within human hearing, above human hearing and below human hearing (Figs. 1-5, col. 7 lines 26-29, i.e., acoustic signals range from infrasound to ultrasound).

Regarding claim 5, Myllyla teaches a method wherein the step of determining the presence comprises the steps of developing the model of the acoustic paths with the user presence and not presence at the telecommunication terminal (Figs. 1-3, col. 4 lines 32-40); and calculating a threshold of changes in the model of the acoustic paths that represents the presence or non-presence of the user at the telecommunication terminal (Figs. 1-3, col. 4 lines 41-58).

Regarding claim 9, Myllyla teaches an apparatus for detecting presence of a user at a telecommunication terminal (Figs. 1-3), comprising:  
a transmitter for transmitting audio information (Fig. 1, 1, A, Fig. 2, 1, A, col. 3 lines 58-59);

a receiver for receiving the transmitted audio information via acoustic paths (Fig. 1, 2, B, Fig. 2, 2, B, col. 3 lines 58-61);  
a model of the acoustic paths for using the audio information before transmission and for producing an audio output (Figs. 1-2, Fig. 3, 1 MEASUREMENT SIGNAL GENERATOR, col. 3 lines 58-59);  
a comparator for determining a difference between the audio output and received audio information (Figs. 1-2, Fig. 3, 6 IMPULSE RESPONSE, col. 3 lines 61-65);  
a modifier for iteratively generating modifications for the model of the acoustic paths in responsive to the difference and audio information before transmission (Fig. 1, 3 DIGITAL SIGNAL PROCESSING UNIT (DSP), Figs. 2-3, col. 3 61-67, and col. 4 lines 1-2); and  
a controller (Fig. 1, 3 DSP) responsive to the modifications for detecting the presence or non-presence of the user at the telecommunication terminal (Fig. 1, 3 DSP, Figs. 2-3, col. 4 lines 2-4).

Regarding claim 10, Myllyla teaches an apparatus wherein the controller further configured for determining modifications when the user is presence and when the user is not presence (Fig. 1, 3 DSP, Figs. 2-3, col. 3 61-67, and col. 4 lines 1-2); and  
the controller calculating a threshold from the determined modifications indicating the presence or non-presence of the user (Fig. 1, 3 DSP, Figs. 2-3, col. 4 lines 2-4).

Regarding claim 12, Myllyla teach an apparatus wherein the type of the audio information is controlled by the controller (Fig. 1, 3 DSP, col. 3 line 67, and col. 4 lines 1-2, i.e., measurement signal “audio information” is generated by DSP).

***Claim Rejections – 35 USC § 103***

2. Claims 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myllyla in view of Dent et al. (U.S. Patent 5,680,450 hereinafter “Dent”).

Regarding claims 13 and 18, Myllyla teaches an apparatus and a method for detecting presence of a user at a telecommunication terminal (Figs. 1-3), comprising: canceling echoes caused by acoustic paths to audio information from and back via the echo path (Fig. 3, 3 ECHO PATH, col. 4 lines 32-40, i.e., generates a measurement signal from and back to the detection system via acoustic paths/echo paths); and

a controller (Fig. 1, 3 DIGITAL SIGNAL PROCESSING UNIT (DSP)) responsive to changes in the echo path for determining the presence and non-presence of the user at the telecommunication terminal (Figs. 1-3, col. 3 lines 4-8, and col. 4 lines 54-59, i.e., the difference is compared to a predetermined threshold value for determining the presence or non-presence of a user).

However, Myllyla does not specifically disclose the echo canceller. Although Myllyla teaches the Digital Signal Processor (DSP) detects a generated measurement signal via the echo path (Myllyla – Fig. 1, 3 DSP, Fig. 3, 3 ECHO PATH, col. 3 lines 57-67, and col. 4 lines 1-4). In addition, on one hand Myllyla teaches this telecommunication terminal comprises a mobile telephone/cellular telephone (Myllyla – col. 3 lines 6-8) which is inherently has an echo canceller/echo detector.

On the other hand, in the same field of endeavor, Dent teaches an echo canceller/echo detector for canceling echoes caused by acoustic paths to audio information from and back to the echo canceller, and this echo canceller can be implemented by the DSP (Dent – Figs. 1-4, col. 3 lines 49-67, and col. 4 lines 45-47, lines 52-54).

It would be obvious to one of ordinary skill in the art at the time of the invention was made to apply a known technique to a known device (i.e., implement echo canceller with DSP) ready for improvement to yield predictable results (see KSR – MPEP 2143). Therefore, it would be obvious to incorporate the echo canceller implemented with the DSP, as taught by Dent, into Myllyla's method and system in order to enhance the detection of a user presence.

Regarding claims 14 and 19, Myllyla teaches a method and an apparatus wherein the audio information is at one of within human hearing, above human hearing

and below human hearing (Figs. 1-5, col. 7 lines 26-29, i.e., acoustic signals range from infrasound to ultrasound).

Regarding claims 15 and 20, Myllyla teach an apparatus and a method wherein the type of the audio information is controlled by the controller (Fig. 1, 3 DSP, col. 3 line 67, and col. 4 lines 1-2, i.e., measurement signal "audio information" is generated by DSP).

Regarding claims 16 and 21, Myllyla teaches an apparatus and a method with a model of the acoustic paths (Figs. 1-3);

a modifier for generating modifications to the model based on changes to the acoustic paths ((Fig. 1, 3 DIGITAL SIGNAL PROCESSING UNIT (DSP), Figs. 2-3, col. 3 61-67, and col. 4 lines 1-2); and

the controller (Fig. 1, 3 DSP) responsive to the generated modifications for determining the presence or non-presence of the user at the telecommunication terminal (Fig. 1, 3 DSP, Figs. 2-3, col. 4 lines 2-4).

Myllyla does not specifically disclose the echo canceller/echo detector. Although, on one hand Myllyla teaches this telecommunication terminal comprises a mobile telephone/cellular telephone (Myllyla – col. 3 lines 6-8) which is inherently has an echo canceller/echo detector.

On the other hand, in the same field of endeavor, Dent teaches an echo canceller/echo detector comprises a model of the acoustic paths (Dent – Figs. 1-4, col. 3 lines 49-67).

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to incorporate the echo canceller/echo detector with a model of the acoustic paths, as taught by Dent, into Myllyla method and system in order to enhance the detection of a user presence.

Regarding claims 17 and 22, Myllyla teaches an apparatus and a method wherein the modifier responsive to a difference in an output of the model of the acoustic paths to audio information before transmission and received audio information via the acoustic paths for generating the modification based on the difference and the audio information before transmission (Figs. 1-3, col. 3 lines 1-6).

Myllyla does not specifically disclose the echo canceller/echo detector. Although, on one hand Myllyla teaches this telecommunication terminal comprises a mobile telephone/cellular telephone (Myllyla – col. 3 lines 6-8) which is inherently has an echo canceller/echo detector.

On the other hand, in the same field of endeavor, Dent teaches an echo canceller/echo detector comprises a model of the acoustic paths (Dent – Figs. 1-4, col. 3 lines 49-67).

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to incorporate the echo canceller/echo detector with a model of the acoustic

paths, as taught by Dent, into Myllyla method and system in order to enhance the detection of a user presence.

#### **(10) Response to Argument**

**(Claim 1)** Appellant argues (Appeal Brief, page 5, and Section VII. ARGUMENT, second paragraph lines 1-6) that "Myllyla does not disclose detecting the presence of the user rather discloses a system for determining if the mobile telephone is to be used in the hands-free mode (mobile telephone away from the ear of the user) or handset mode (mobile telephone next to the ear of the user). Myllyla clearly describes this type of operation in Column 1, lines 20-31, and Column 3, lines 9-15. - - -".

**In response to the argument**, the Examiner respectfully disagrees with Appellant's argument because Appellant is apparently reading limitations into the claim and arguing about features that are not claimed, irrelevant to the claims or arguing a mere field-of-use (i.e., hands-free mode or handset mode) which is not recited anywhere in the claim. And thus, Appellant's argument is improper because Appellant's argument is based on irrelevant application such as hands-free/handset modes that is not claimed.

Appellant also argues (Appeal Brief, page 5, and Section VII. ARGUMENT, second paragraph lines 6-9) that " - - -. Myllyla assumes that the user is present and is only trying to determine the location of the mobile telephone to the user's head."

**In response to the argument**, the Examiner respectfully disagrees with Appellant's argument for the following reasons: First, since the claim does not specify any definition or limitation in the claim on "the presence of a user". And thus it is up to one of ordinary skill in the art to take the broadest interpretation such that the user is present when the user's head is present. Second, Appellant's specification describes detecting a presence of a user by at least one of a change in the acoustical path around the telephone. For the convenience of the board, Appellant's specification, page 2 lines 16-18 is reproduced herein as follows:

and apparatus for detecting a presence of a user at a telecommunication terminal by at least one of a change in the acoustical path around the telecommunication terminal

And therefore, to one of ordinary skill in the art, "the presence of a user" is interpreted as the presence of any parts of a user body (i.e., any parts of a user body such as user's head, user's ear, user's hands, user's arms, etcetera) is detected around the telecommunication terminal. And third, Myllyla clearly discloses a method for detecting if a user is in proximity to the telecommunication terminal wherein the proximity detection method and system are based on acoustic principle (see Myllyla – Figs. 1-4, 5A-5B, and column 2 lines 11-21). Myllyla also discloses a simplified example of system which utilizes the change in the acoustic path around a mobile phone such as the presence of the user's head (see Myllyla – Fig. 1, Fig. 2 shows a phone in proximity to a user's head, Fig. 3, and column 4 lines 27-40, i.e., the measurement signal is altered by the environment, such as the presence of the user's head). Myllyla does not assume that the user is present, but Myllyla utilizes the signal that is altered by the

environment around the telephone to detect the presence of the user's head, and to one of ordinary skill in the art, the presence of the user's head is interpreted as the presence of a user. In addition, it is not reasonable to expect that one of ordinary skill in the art would interpret that the user's head is present but the other parts of the user's body are not present (i.e., the user is not present but only the user's head is present).

Appellant further uses page 2 of the Final Office Action on 1/17/2008 (Appeal Brief, page 5, last sentence through page 6 line 21) to repeat the same argument that " - -. Myllyla clearly states in Column 1, lines 20-31 and Column 3, lines 9-15 that the mobile telephone is determining if the mobile telephone is to be used in the hands-free mode (mobile telephone away from the ear of the user) or handset mode (mobile telephone next to the ear of the user). The mobile telephone is not determining the presence of the user rather if the telephone is next to the user's ear. Appellant respectfully submits that claim 1 is patentable under 35 U.S.C. § 102(e)."

**In response to the argument**, the Examiner respectfully disagrees with Appellant's argument for the same reasons set forth above. Again, Appellant is reading limitation into the claim and arguing the irrelevant not claimed feature or a mere field-of-use which is not recited anywhere in the claim (i.e., hands-free mode (mobile telephone away from the ear of the user) or handset mode (mobile telephone next to the ear of the user)). And again, it is not reasonable to expect that one of ordinary skill in the art to interpret such as the user's ear is present but the other parts of the user's head and the user's body is not present (i.e., the user is not present but only the user's ear is present).

Thus Myllyla discloses the limitations of the claim.

**(Claims 4 and 5)** Appellant argues (Appeal Brief, page 6, lines 22-24) that "Dependent claims 4-5 are directly or indirectly dependent on claim 1 and are patentable for at least the same reasons as independent claim 1 under 35 U.S.C. §102(e)."

**In response to the argument,** the Examiner respectfully disagrees with Appellant's argument. As shown above, Myllyla discloses the limitations of the claim 1, and thus Myllyla discloses the limitations of the claims 4 and 5.

**(Claims 9-12)** Appellant argues (Appeal Brief, page 6, lines 26-27) that " - - - claims 9-12 are patentable under 35 U.S.C. §102(e) for the same reasons as claims 1-5."

**In response to the argument,** the Examiner respectfully disagrees with Appellant's argument. As shown above, Myllyla discloses the limitations of the claims 1-5, and thus Myllyla discloses the limitations of the claims 9-12.

**(Claims 13)** Appellant argues (Appeal Brief, page 7, lines 9-12) that "As previously shown in the earlier paragraphs with respect to claim 1, Myllyla does not disclose determining the presence or non-presence of the user but rather discloses determining whether the mobile telephone is being held at the user's ear or not."

**In response to the argument,** the Examiner respectfully disagrees with Appellant's argument. Again, claim 13 does not specify any definition or limitation in the claim on "the presence of a user". And thus it is up to one of ordinary skill in the art to

take the broadest interpretation such that the user is present when the user's ear is present, however Myllyla clearly discloses a method for detecting if a user is in proximity to the telecommunication terminal wherein the proximity detection method and system are based on acoustic principle (see Myllyla – Figs. 1-4, 5A-5B, and column 2 lines 11-21). Myllyla also disclose a simplified example of system which utilizes the change in the acoustic path around a mobile phone such as the presence of the user's head (see Myllyla – Fig. 1, Fig. 2 shows a phone in proximity to a user's head, Fig. 3, and column 4 lines 27-40, i.e., the measurement signal is altered by the environment, such as the presence of the user's head), and to one of ordinary skill in the art, the presence of the user's head is interpreted as the presence of a user. In addition, it is not reasonable to expect that one of ordinary skill in the art to interpret such as the user's head is present but the other parts of the user's body is not present (i.e., the user is not present but only the user's head is present).

Appellant also argues (Appeal Brief, page 7, lines 12-14) that “- - - Myllyla does not disclose or suggest an echo canceller or a controller responsive to changes in the echo canceller for determining the presence or non-presence of a user. The Final Office Action relies on Dent to teach and echo canceller - - -”.

In response to the argument, the Examiner respectfully disagrees with Appellant's argument. First, Myllyla clearly discloses the use of a Digital Signal Processor (DSP) “controller” and the echo path to implement the proximity detection function (see Myllyla - Fig. 1, 3 DSP, A, B, Object, and Fig. 3, ECHO PATH, 2, 4, column 2, lines 31-41). Second, Myllyla discloses “If there are any objects near the

application device, the measurement signal (A) is reflected from the object back to the application device and to the receiving transducer 2. If there are no objects in close proximity, there are no reflections." (see Myllyla – Fig. 1, A, B. OBJECT, 2 RECEIVING TRANSDUCER, column 3, lines 61-65), wherein the reflections clearly reads on "echo" (i.e., repetition of a sound caused by reflection (e.g., from an object)). Third, Myllyla discloses "- - -. Finally, utilizing both of the signals (A, B) the signal processing unit 3 calculates the proximity detection result." (see Myllyla – Fig. 1, A, B, OBJECT, 3 DIGITAL PROCESSING UNIT, column 4, lines 2-4). Therefore, Myllyla reference by itself discloses a signal processing unit responsive to changes in the echo path for determining the presence of any objects, and can be reads on "a controller responsive to changes in the echo canceller for determining the presence or non-presence of a user". However, in order to make it more clearly that the feature "echo canceller" can be implemented with DSP is old and well known in the art, and thus Dent reference is used to show this limitation.

Appellant further argues (Appeal Brief, page 8, lines 12-14) that "- - -. Clearly, the disclosure of Myllyla teaches away from the DSP implementing an echo canceller to make a determination of whether or not the mobile telephone is next to the ear of the user."

**In response to the argument**, the Examiner respectfully disagrees with Appellant's argument. As shown above, Myllyla reference by itself discloses a signal processing unit responsive to changes in the echo path for determining the presence of any objects, wherein Myllyla discloses "- - -. Finally, utilizing both of the signals (A, B)

the signal processing unit 3 calculates the proximity detection result.” (see Myllyla – Fig. 1, A, B, OBJECT, 3 DIGITAL PROCESSING UNIT, column 4, lines 2-4). And thus, the disclosure of Myllyla does not teach away from the DSP implementing an echo canceller to make a determination of whether or not the mobile telephone is next to the ear of the user.

Thus Myllyla and Dent disclose the limitations of the claim.

Note: The Appeal Brief is incorrectly submitted claim 13 as patentable under 35 U.S.C. §102(e) (Appeal Brief, page 8, lines 15-16). Claim 13 is rejected under 35 U.S.C. §103(a).

**(Claims 14-17)** Appellant argues (Appeal Brief, page 8, lines 17-19) that “Dependent claims 14-17 are directly or indirectly dependent on claim 13 and are patentable for at least the same reasons as Independent claim 13 under 35 U.S.C. §103(a).”

**In response to the argument,** the Examiner respectfully disagrees with Appellant’s argument. As shown above, Myllyla and Dent disclose the limitations of the claim 13, and thus Myllyla and Dent disclose the limitations of the claims 14 -17.

**(Claim 18)** Appellant argues (Appeal Brief, page 8, lines 26-27) that “--- claim 18 is patentable under 35 U.S.C. §102(e) for the same reasons as claim 13.”

**In response to the argument**, the Examiner respectfully disagrees with Appellant's argument. As shown above, Myllyla and Dent disclose the limitations of the claim 13, and thus Myllyla and Dent disclose the limitations of the claim 18.

Note: The Appeal Brief is incorrectly submitted claim 18 as patentable under 35 U.S.C. §102(e) (Appeal Brief, page 8, lines 22-23). Claim 18 is rejected under 35 U.S.C. §103(a).

**(Claims 19-22)** Appellant argues (Appeal Brief, page 8, lines 24-26) that "Dependent claims 19-22 are directly or indirectly dependent on claim 18 and are patentable for at least the same reasons as Independent claim 18 under 35 U.S.C. §103(a)."

**In response to the argument**, the Examiner respectfully disagrees with Appellant's argument. As shown above, Myllyla and Dent disclose the limitations of the claim 18, and thus Myllyla and Dent disclose the limitations of the claims 19 -22.

For the above reasons, it is believed that the rejections should be sustained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,

Art Unit 2614

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